Enterprise Architecture Practice

Geocoding Practice
Reference Model Type and ID No: SRM 74.742.590.3
Status: Proposed
Analysis: OCIO Enterprise Architecture and Geographic Information Systems
Effective Date: mm/dd/yyyy
Next Review Date: mm/dd/yyyy
Approved By: Office of the State Chief Information Officer (OCIO)

Introduction

The following are recommended practices procedures for geocoding. State agencies should make their best efforts to follow these guidelines.

Background

Geographic Information Systems (GIS) are a collection of hardware and software tools, used for the capture, storage, retrieval, display and analysis of spatial data. The purpose of the geocoding standard is to enable State government to utilize geocoding services to provide more accurate place-based information for emergency preparedness and response, fire protection, public health and safety, law enforcement, education, environmental management, land use planning, economic development, property management, fraud analysis and detection, tax collection, and other activities.

Composite Service

It is a State of California practice to develop and use the locators in a composite geocoding service in the following order:

1. Address Point or site address parcel centroid;
2. Street center line file (best possible industry licensed data if funding permits)
3. Street center line (publically available – US Census TIGER)
4. ZIP+4 centroids
5. ZIP (5 digit only) centroids
6. Place name

Address Entry

It is a State of California practice to geocode data at the time of entry, so that address standardization, validation and end user confirmation of the correct location can occur. With existing data resources, batch geocoding must be employed, but new system design must include geocoding at time of entry. This provides the opportunity to edit location and correct errors, eliminating time and effort lost to error.

Offset

It is a State of California practice, when using street centerline data, to offset the resulting geocode to the appropriate street side as defined by the "Left Side" or "Right Side" in reference center line data by a minimum of 15 meters. Offsetting geocodes improves the reliability of related data returned from the geocoding process (e.g., assigning a county or legislative district to the geocode).

The Statewide Information Management Manual (SIMM), Section 58D, Enterprise Architecture (EA) Standards includes all EA Standards, and SIMM Section 158 includes all EA Practices documents. Further information on geocoding and exemption requests can be found in the SIMM under the Enterprise Architecture Standards Section 58.

Privacy and Security

It is a State of California practice to recognize that in some instances, address data and resulting geocodes may be part of protected personally identifiable information (reportable disease cases, for example). In this case, such data must be securely administered in full compliance with all applicable federal, state, or local privacy laws and regulations, including but not limited to the Health Insurance Portability and Accountability Act (HIPAA).

Authorities

Section 11545 of the Government Code (b) The duties of the State Chief Information Officer shall include, but are not limited to all of the following: (2) Establishing and enforcing state information technology strategic plans, policies, and standards, and enterprise architecture.

Implementation

The Geocode and Geocode Projection EA Standards apply to all new data system development for IT projects approved after July 1, 2010, that are initially funded in the Budget Act of 2010.

For systems that are already in place, state agencies should review the EA Standards, and incorporate implementation or retrofit plans into their Agency Information Management Strategy.

Exceptions to the EA Standards may be submitted to the OCIO by following the "OCIO EA Compliance Component Instructions" found in the SIMM 58A, Enterprise Architecture Developers Guide.

Data stored in individual desktop productivity tools, such as spreadsheets, is not subject to the associated EA standards. However, agencies interested in geocoding such data for mapping purposes are encouraged to follow the EA Standards and this EA Practice.